Cvičenia

Vypočítajte nevlastné integrály:

1. $\int_1^{\infty} \frac{x^3+1}{x^4}\,dx$ [neexistuje]
2. $\int_3^{\infty} \frac{1}{(x-2)^2}\,dx$ [1]
3. $\int_{-\infty}^{-0,5} \frac{1}{x^2+x+1}\,dx$ $[\frac{\pi}{\sqrt{3}}]$
4. $\int_{-\infty}^{\infty} \frac{1}{x^2+2x+2}\,dx$ $[\pi]$
5. $\int_1^{\infty} \frac{1}{x\sqrt{x^2-1}}\,dx$ $[\frac{\pi}{2}]$
6. $\int_0^{\infty} e^{-3x}\,dx$ $[\frac{1}{3}]$
7. $\int_0^{\infty} xe^{-x^2}\,dx$ $[\frac{1}{2}]$
8. $\int_1^{\infty} \frac{e^{1/x}}{x^2}\,dx$ $[e^{-1}]$
9. $\int_0^{\infty} e^{-ax}\cos bx\,dx$ $[\frac{a}{a^2+b^2}]$
10. $\int_{-\infty}^{\infty} \frac{arctg^2 x}{1+x^2}\,dx$ $[\frac{\pi^3}{12}]$
11. $\int_0^1 x\ln x\,dx$ $[\frac{-1}{4}]$
12. $\int_0^1 \sqrt{\frac{1+x}{1-x}}\,dx$ $[\frac{\pi+2}{2}]$